

Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims

1. **(Currently Amended)** An isolated nucleic acid molecule selected from the group consisting of:

(a) ~~an isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, or the complement thereof, wherein said nucleic acid molecule encodes a polypeptide having 6-phosphogluconolactonase activity and wherein said nucleic acid molecule comprises less than 5 kb of nucleotide sequences which naturally flank the nucleotide sequence of SEQ ID NO:1;~~

(b) ~~an isolated nucleic acid molecule comprising a nucleotide sequence which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or the complement thereof, wherein the polypeptide has 6-phosphogluconolactonase activity and wherein said nucleic acid molecule comprises less than 5 kb of nucleotide sequences which naturally flank the nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2; and~~

(c) ~~an isolated nucleic acid molecule comprising a nucleotide sequence which has at least 95% identity with the nucleotide sequence of SEQ ID NO:1, or the complement thereof, wherein said nucleic acid molecule encodes a polypeptide having 6-phosphogluconolactonase activity and wherein said nucleic acid molecule comprises less than 5 kb of nucleotide sequences which naturally flank the nucleotide sequence of SEQ ID NO:1.~~

2-3. **(Cancelled)**

4. **(Currently Amended)** An isolated nucleic acid molecule selected from the group consisting of:

(a) ~~an isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, or the complement thereof, wherein said nucleic acid molecule encodes only a polypeptide having 6-phosphogluconolactonase activity;~~

- (b) ~~an isolated nucleic acid molecule which encodes only a polypeptide comprising the amino acid sequence of SEQ ID NO:2 and having 6 phosphogluconolactonase activity, or the complement thereof;~~
- (c) ~~an isolated nucleic acid molecule comprising a nucleotide sequence which has at least 95% identity with the nucleotide sequence of SEQ ID NO:1, or the complement thereof, wherein said nucleic acid molecule encodes only a polypeptide having 6 phosphogluconolactonase activity.~~

5-8. **(Cancelled)**

9. **(Currently Amended)** An isolated nucleic acid molecule comprising the nucleic acid molecule of any one of claims 1, 4 or 41-44 and a nucleotide sequence encoding a heterologous polypeptide.

10. **(Currently Amended)** A vector comprising the nucleic acid molecule of any one of claims 1, 4 or 41-44.

11. **(Original)** The vector of claim 10, which is an expression vector.

12. **(Previously Presented)** An isolated host cell transformed with the expression vector of claim 11.

13. **(Previously Presented)** The host cell of claim 12, wherein said cell is a microbial cell.

14. **(Original)** The host cell of claim 13, wherein said cell belongs to the genus *Corynebacterium* or *Brevibacterium*.

15-16. **(Cancelled)**

17. **(Currently Amended)** A method of producing a polypeptide encoded by an expression vector comprising the nucleic acid molecule of any one of claims 1, 4 or

41-44, comprising culturing a host cell transformed with said vector in an appropriate culture medium to, thereby, produce the polypeptide.

18-24. (Cancelled)

25. (Previously Presented) A method for producing an amino acid, comprising culturing a cell transformed with the vector of claim 11 such that the amino acid is produced.

26. (Previously Presented) The method of claim 25, wherein said method further comprises the step of recovering the amino acid from said culture.

27. (Cancelled)

28. (Original) The method of claim 25, wherein said cell belongs to the genus *Corynebacterium* or *Brevibacterium*.

29. (Previously Presented) The method of claim 25, wherein said cell is selected from the group consisting of: *Corynebacterium glutamicum*, *Corynebacterium herculis*, *Corynebacterium lilium*, *Corynebacterium acetoacidophilum*, *Corynebacterium acetoglutamicum*, *Corynebacterium acetophilum*, *Corynebacterium ammoniagenes*, *Corynebacterium fujikense*, *Corynebacterium nitrilophilus*, *Brevibacterium ammoniagenes*, *Brevibacterium flavum*, *Brevibacterium ketosoreductum*, *Brevibacterium linens*, *Brevibacterium parafinolicum*, and those strains set forth in Table 3.

30. (Cancelled)

31. (Previously Presented) The method of claim 25, wherein said amino acid is a proteinogenic or nonproteinogenic amino acid.

32. (Cancelled)

33. **(Previously Presented)** The method of claim 25, wherein said amino acid is selected from the group consisting of lysine, glutamate, glutamine, alanine, aspartate, glycine, serine, threonine, methionine, cysteine, valine, leucine, isoleucine, arginine, proline, histidine, tyrosine, phenylalanine, and tryptophan.

34-38. **(Canceled)**

39. **(Currently Amended)** The isolated nucleic acid molecule of claims ~~1(e) or 4(e)~~^{42 or 44}, wherein the nucleotide sequence has at least 97% identity to the nucleotide sequence of SEQ ID NO:1.

40. **(Currently Amended)** The isolated nucleic acid molecule of any one of claims 1, 41 or 42, wherein said nucleic acid molecule comprises less than 4 kb, 3 kb, 2 kb, 1 kb, 0.5 kb or 0.1 kb of nucleotide sequences which naturally flank the nucleotide sequence of SEQ ID NO:1 or the nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2.

41. **(New)** An isolated nucleic acid molecule comprising a nucleotide sequence which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or the complement thereof, wherein the polypeptide has 6-phosphogluconolactonase activity and wherein said nucleic acid molecule comprises less than 5 kb of nucleotide sequences which naturally flank the nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2.

42. **(New)** An isolated nucleic acid molecule comprising a nucleotide sequence which has at least 95% identity with the nucleotide sequence of SEQ ID NO:1, or the complement thereof, wherein said nucleic acid molecule encodes a polypeptide having 6-phosphogluconolactonase activity and wherein said nucleic acid molecule comprises less than 5 kb of nucleotide sequences which naturally flank the nucleotide sequence of SEQ ID NO:1.

43. (New) An isolated nucleic acid molecule which encodes only a polypeptide comprising the amino acid sequence of SEQ ID NO:2 and having 6-phosphogluconolactonase activity, or the complement thereof.

44. (New) An isolated nucleic acid molecule comprising a nucleotide sequence which has at least 95% identity with the nucleotide sequence of SEQ ID NO:1, or the complement thereof, wherein said nucleic acid molecule encodes only a polypeptide having 6-phosphogluconolactonase activity.